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EXAMINER
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LEWIS, BEN

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* KURT ULMER, DAVID CHAMPION, GREGORY HERMAN,  
and PETER MARDILOVICH

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Appeal 2010-000312  
Application 10/674,053  
Technology Center 1700

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Before CHARLES F. WARREN, TERRY J. OWENS, and  
KAREN M. HASTINGS, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 3, 5-7, 24, 25, 28-30, 32-36, 38-42, 44, and 45, which

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

are the only claims pending in this application.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

Representative claim 1 reads as follows:

1. A fuel cell system, configured to control temperature of individual fuel cells of a plurality of fuel cells by regulating serial vs. parallel configuration of the plurality of fuel cells within the system, the system comprising:

first and second fuel cells of the plurality of fuel cells capable of providing an electrical output; and

a controller configured for regulating temperature of the fuel cell system by controlling serial vs. parallel configuration of the first and second fuel cells, wherein the controller is configured to identify whether more or less heat is required by the fuel cell system,

wherein the controller increases heat production by increasing fuel consumption by switching to a more serial configuration and decreases heat production by decreasing fuel consumption by switching to a more parallel configuration, and

wherein the controller is in communication with:

a switch circuit comprising one or more switches for arranging the electrical output of the first fuel cell and the electrical output of the second fuel cell in parallel or series; and

a temperature measurement circuit capable of measuring the temperature of the first fuel cell or the second fuel cell and providing a signal to the controller;

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<sup>2</sup> Claims 4, 31, 37, and 43 have been canceled (*see* App. Br. 4).

wherein the controller utilizes the switch circuit to switch to a more serial configuration if more heat is required and switches to a more parallel configuration if less heat is required.

All of the claims on appeal are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ballantine (US 2003/0008184 A1, issued Jan. 9, 2003).

### OPINION

The Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) quoted with approval in *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Applying the preceding legal principles with respect to obviousness to the factual findings in this record, we determine that the Examiner has not properly identified factual findings and reasoning for establishing a *prima facie* case of obviousness based on the applied prior art for the reasons explained by Appellants in the briefs (*see generally* App. Br.; Reply Br.<sup>3</sup>).

Notably, the Examiner contends that the functional language in the recitation of the controller is merely intended use, and is not a structural limitation of the controller. Ans. 5, 13, 15, 17. To the extent that the

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<sup>3</sup> We have considered the Substitute Examiner’s Answer mailed October 7, 2009. This Substitute Answer *only* adds section headings to the Original Answer mailed on April 16, 2009. Accordingly, we hold the Supplemental Reply Brief filed December 7, 2009, improper because the Substitute Examiner’s Answer is not a Supplemental Answer permitting a Supplemental Reply Brief under 37 C.F.R. § 41.43(b).

Examiner's position is that these claims recite only a general purpose controller as the claimed controller, the Examiner's position is untenable (*see, e.g.*, Ans. 17 (the claimed invention “can be achieved by modifying the programming [of] the controller of the prior art”). It is well established that claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, *see, e.g., In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997). In order to satisfy the functional limitations in an apparatus claim, however, the prior art apparatus must be capable of performing the claimed function. *Id.* at 1478. As such, to be capable of performing the functional limitations in claims 1, 28, 34, 40, as well as in claims 24 and 25, the controller or comparable structure must possess the necessary programming to function as claimed.

Indeed, the Examiner admits that Ballantine does not teach the claimed requirement of switching “to a more serial configuration if more heat is required and switching to a more parallel configuration if less heat is required” (*e.g.*, claim 1; *see also* Ans. 5, 13, 15, 17). Furthermore, the Examiner has not articulated any persuasive reason why the artisan would have modified Ballantine to result in the claimed invention. Accordingly, we agree with Appellants that Ballantine does not teach or suggest the claimed requirement of switching “to a more serial configuration if more heat is required and switching to a more parallel configuration if less heat is required” as in claim 1, for example (Reply Br. 4-6; *see also* App. Br. 13-20), as well as in claims 24 and 25 (Reply Br. 9; *see also* App. Br. 21-24).

On this record, we cannot say the Examiner has established a *prima facie* case of obviousness within the meaning of 35 U.S.C. § 103(a) for the

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claims on appeal. For these reasons and those set out in the Briefs, we reverse the Examiner's § 103 rejection on appeal.

### CONCLUSION

In summary, the rejection before us on appeal is reversed.

REVERSED

kmm

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